

Oliver HÃ¶hn

List of Publications by Year in descending order

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Version: 2024-02-01

69
papers

1,438
citations

361413

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h-index

345221

36
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72
all docs

72
docs citations

72
times ranked

1575
citing authors

#	ARTICLE	IF	CITATIONS
1	III-V-on-silicon solar cells reaching 33% photoconversion efficiency in two-terminal configuration. Nature Energy, 2018, 3, 326-333.	39.5	244
2	A 19.9%-efficient ultrathin solar cell based on a 205-nm-thick GaAs absorber and a silver nanostructured back mirror. Nature Energy, 2019, 4, 761-767.	39.5	136
3	Impact of Photon Recycling on GaAs Solar Cell Designs. IEEE Journal of Photovoltaics, 2015, 5, 1636-1645.	2.5	70
4	3D optical simulation formalism OPTOS for textured silicon solar cells. Optics Express, 2015, 23, A1720.	3.4	56
5	68.9% Efficient GaAs-Based Photonic Power Conversion Enabled by Photon Recycling and Optical Resonance. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2100113.	2.4	56
6	Optimal laser wavelength for efficient laser power converter operation over temperature. Applied Physics Letters, 2016, 108, .	3.3	53
7	Towards Nanowire Tandem Junction Solar Cells on Silicon. IEEE Journal of Photovoltaics, 2018, 8, 733-740.	2.5	53
8	Two-terminal III-V/Si triple-junction solar cell with power conversion efficiency of 35.9% at AM1.5g. Progress in Photovoltaics: Research and Applications, 2022, 30, 869-879.	8.1	53
9	Origination of nano- and microstructures on large areas by interference lithography. Microelectronic Engineering, 2012, 98, 293-296.	2.4	51
10	Two-terminal Direct Wafer-Bonded GaInP/AlGaAs/Si Triple-junction Solar Cell with AM1.5g Efficiency of 34.1%. Solar Rrl, 2020, 4, 2000210.	5.8	45
11	Wave optical simulation of the light trapping properties of black silicon surface textures. Optics Express, 2016, 24, A434.	3.4	42
12	Matrix formalism for light propagation and absorption in thick textured optical sheets. Optics Express, 2015, 23, A502.	3.4	40
13	Optical simulation of photovoltaic modules with multiple textured interfaces using the matrix-based formalism OPTOS. Optics Express, 2016, 24, A1083.	3.4	39
14	Nonradiative lifetime extraction using power-dependent relative photoluminescence of III-V semiconductor double-heterostructures. Journal of Applied Physics, 2016, 119, .	2.5	38
15	Combining Photon Recycling and Concentrated Illumination in a GaAs Heterojunction Solar Cell. IEEE Journal of Photovoltaics, 2018, 8, 348-354.	2.5	31
16	Characterizing the degradation of PDMS stamps in nanoimprint lithography. Microelectronic Engineering, 2017, 180, 40-44.	2.4	27
17	Theoretical study of pyramid sizes and scattering effects in silicon photovoltaic module stacks. Optics Express, 2018, 26, A320.	3.4	26
18	Development of back side technology for light trapping and photon recycling in GaAs solar cells. Progress in Photovoltaics: Research and Applications, 2019, 27, 163-170.	8.1	25

#	ARTICLE	IF	CITATIONS
19	Energy yield analysis of textured perovskite silicon tandem solar cells and modules. Optics Express, 2019, 27, A1419.	3.4	25
20	Impact of photon recycling and luminescence coupling on III-V single and dual junction photovoltaic devices. Journal of Photonics for Energy, 2015, 5, 053087.	1.3	21
21	The MorphoColor Concept for Colored Photovoltaic Modules. IEEE Journal of Photovoltaics, 2021, 11, 1305-1311.	2.5	21
22	Maximal power output by solar cells with angular confinement. Optics Express, 2014, 22, A715.	3.4	19
23	Photon Management Structures Originated by Interference Lithography. Energy Procedia, 2011, 8, 712-718.	1.8	18
24	Experimental coupling process efficiency and benefits of back surface reflectors in photovoltaic multi-junction photonic power converters. Progress in Photovoltaics: Research and Applications, 2021, 29, 461-470.	8.1	16
25	Optoelectronic simulation of GaAs solar cells with angularly selective filters. Journal of Applied Physics, 2014, 115, .	2.5	15
26	Optical modeling of structured silicon-based tandem solar cells and module stacks. Optics Express, 2018, 26, A761.	3.4	13
27	Optimization of angularly selective photonic filters for concentrator photovoltaic. Proceedings of SPIE, 2012, , .	0.8	12
28	Optical analysis of a III-V-nanowire-array-on-Si dual junction solar cell. Optics Express, 2017, 25, A665.	3.4	12
29	Large area plasmonic nanoparticle arrays with well-defined size and shape. Optical Materials Express, 2014, 4, 944.	3.0	11
30	Tailored disorder: a self-organized photonic contact for light trapping in silicon-based tandem solar cells. Optics Express, 2020, 28, 10909.	3.4	11
31	Development of Germanium-Based Wafer-Bonded Four-Junction Solar Cells. IEEE Journal of Photovoltaics, 2019, 9, 1625-1630.	2.5	9
32	Development and Analysis of Wafer-Bonded Four-Junction Solar Cells Based on Antimonides With 42% Efficiency Under Concentration. IEEE Journal of Photovoltaics, 2020, 10, 495-501.	2.5	9
33	Impact of photon recycling and luminescence coupling in III-V photovoltaic devices. Proceedings of SPIE, 2015, , .	0.8	8
34	51% Efficient Photonic Power Converters for O-Band Wavelengths around 1310 nm. , 2020, , .		8
35	Effects of angular confinement and concentration to realistic solar cells. Journal of Applied Physics, 2015, 117, 034503.	2.5	7
36	Large area patterning using interference and nanoimprint lithography. Proceedings of SPIE, 2016, , .	0.8	7

#	ARTICLE	IF	CITATIONS
37	Potential Analysis of a Rear-Side Passivation for Multi-Junction Space Solar Cells based on Germanium Substrates. , 2018, , .		6
38	Spectrally selective intermediate reflectors for tandem thin-film silicon solar cells. , 2013, , .		5
39	Optical performance of the honeycomb texture “a cell and module level analysis using the OPTOS formalism. Solar Energy Materials and Solar Cells, 2017, 173, 66-71.	6.2	5
40	Impact of Front Side Pyramid Size on the Light Trapping Performance of Wafer Based Silicon Solar Cells and Modules. , 2017, , .		5
41	Soft thermal nanoimprint of PMMA doped with upconverter nanoparticles. Microelectronic Engineering, 2018, 187-188, 154-159.	2.4	5
42	Pushing the Boundaries of Photovoltaic Light to Electricity Conversion: A GaAs Based Photonic Power Converter with 68.9% Efficiency. , 2021, , .		5
43	Optimizing metal grating back reflectors for III-V-on-silicon multijunction solar cells. Optics Express, 2021, 29, 22517.	3.4	5
44	Broadband antireflection Mie scatterers revisited“a solar cell and module analysis. Optics Express, 2019, 27, A524.	3.4	5
45	The photonic solar cell: system design and efficiency estimations. , 2014, , .		4
46	Status of Four-Junction Cell Development at Fraunhofer ISE. E3S Web of Conferences, 2017, 16, 03009.	0.5	4
47	Electrical and optical analysis of a spray coated transparent conductive adhesive for two-terminal silicon based tandem solar cells. AIP Conference Proceedings, 2019, , .	0.4	4
48	Pathways and Potentials for III“V on Si Tandem Solar Cells Realized Using a ZnO-Based Transparent Conductive Adhesive. IEEE Journal of Photovoltaics, 2021, 11, 85-92.	2.5	4
49	4-Junction GaAs Based Thin Film Photonic Power Converter with Back Surface Reflector for Medical Applications. , 2021, , .		4
50	Passivated, Highly Reflecting, Laser Contacted Ge Rear Side for III-V Multi-Junction Solar Cells. IEEE Journal of Photovoltaics, 2021, 11, 1256-1263.	2.5	4
51	Photonic structures for III-V//Si multijunction solar cells with efficiency >33%. , 2018, , .		4
52	Light scattering at random pyramid textures: Effects beyond geometric optics. AIP Conference Proceedings, 2018, , .	0.4	3
53	Impact of Irradiance Data on the Energy Yield Modeling of Dual-Junction Solar Module Stacks for One-Sun Applications. IEEE Journal of Photovoltaics, 2021, 11, 692-698.	2.5	3
54	Counterbalancing light absorption and ionic transport losses in the electrolyte for integrated solar water splitting with III“V/Si dual-junctions. Applied Physics Letters, 2021, 119, .	3.3	3

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55	Coloured Module Glass for BIPV inspired by Morpho Butterfly. , 2016, , .		3
56	Modeling the optical properties of Morpho-inspired thin-film interference filters on structured surfaces. Optics Express, 2022, 30, 14586.	3.4	3
57	Study of plasmonic nanoparticle arrays for photon management in solar cells. , 2014, , .		2
58	Impact of the refractive index on coupling structures for silicon solar cells. Journal of Photonics for Energy, 2021, 11, .	1.3	2
59	Advanced module optics of textured perovskite silicon tandem solar cells. , 2018, , .		2
60	The First Glued Tandem Solar Cell Using a ZnO Based Adhesive. , 2020, , .		2
61	Optical properties of textured sheets: an efficient matrix-based modelling approach. Proceedings of SPIE, 2015, , .	0.8	1
62	34.1 % Efficient GaInP/AlGaAs//Si Tandem Cell. , 2020, , .		1
63	Efficient optical analysis of surface texture combinations for silicon solar cells. , 2016, , .		0
64	Nanoparticle scattering for multijunction solar cells. Proceedings of SPIE, 2016, , .	0.8	0
65	Interference and nanoimprint lithography for the patterning of large areas. , 2017, , .		0
66	Diffraction Gratings for Light Trapping in Crystalline Silicon Solar Cells. , 2015, , .		0
67	Determining the Optimal Laser Wavelength for Laser Power Conversion Depending on Operation Temperature. , 2016, , .		0
68	Nanoimprinted sol-gel materials for antireflective structures on silicon solar cells. , 2018, , .		0
69	Coupling Structures on the Front of the Cell: Which Refractive Index is Needed for Good Light Trapping?. , 2020, , .		0